

the visit over and the friend gone, his hours were immediately readjusted to the old routine.

To the casual acquaintance Mr. Frost spoke of his botanical interests only when questioned, but he welcomed everyone who came to him for botanical help, assisted courteously, and was always ready to give careful directions for finding the station of any plant for which the student might be inquiring.

When this reserved man labeled a specimen "more precious than gold" he was giving for a moment a swift vision of the enthusiasm and love for his special calling which lay deep in his strong nature, where it burned like a fine fire. Mr. Frost's character in its entirety makes him a representative of a type challenging admiration, compelling respect and inspiring to ideals of patient, thorough, and persevering work. It is not necessary for me to speak specifically of Mr. Frost's work in his chosen field of botanical research. Any discussion of this subject would come far more fittingly from the University of Vermont, which has just done so much to honor his name and has given his work a permanent place and association with her history.

SPIRANTHES NEGLECTA.

OAKES AMES.

(Plate 51.)

WHAT I propose to call *Spiranthes neglecta*, is a rare New England orchid, often confused with *Spiranthes praecox*, Watson, of the Southern states. It is scantily represented in most herbaria, though the known stations from which it is reported are numerous enough to show that the characters considered of specific value are not confined to a localized form. In the New England Botanical Club Herbarium there is a single specimen from Connecticut; in the Gray Herbarium there are several specimens, among them one from Washington, D. C., and one from Georgia, but none from New England, if we exclude a specimen with nothing more definite on the label as to habitat than, "collected on the Cape, August, 1896," which conjecturally may be ascribed to Massachusetts. Mr. Walter

Deane has compared plants from Easton, Massachusetts, with plants from Milford, Connecticut, in his herbarium, and has pronounced them specifically similar, and unlike *S. praecox*, Watson, collected in New Jersey.

Among the Orchidaceae published in RHODORA in the "Lists of New England Plants," Mr. Emile F. Williams reports *S. praecox*, Watson, as having been found in Massachusetts, Rhode Island and Connecticut. As I have seen no true *S. praecox* from these states, and as they are north of the northern limits of this species, the plants Mr. Williams refers to may be *S. neglecta*. It is also reported from Middlesex County, Massachusetts, by Mr. Ernest C. Smith (RHODORA, i. 97), as *S. graminea*, var. *Walteri*, Gray. According to the "Portland Catalogue," *S. praecox* is ascribed to Maine. Its absence, however, from the Maine *Spiranthes* in the New England Botanical Club Herbarium is remarkable, especially so, as the representation of the genus from this state is unusually rich and comprehensive. There is, however, in this herbarium a specimen of *S. cernua*, collected by J. C. Parlin in wet places at Hartford, Maine, Sept., 1885, which bears on the label the name *S. graminea*, var. *Walteri*. In the preparation of his List of New England Orchids, Mr. Williams was unable to authenticate the report of the "Portland Catalogue" regarding *S. praecox*, so that it seems advisable to omit this species at present from the Maine flora.

During August, 1903, Mr. Robert G. Leavitt, in company with Mr. H. D. Sleeper, found many plants of this neglected species at Black Point, Crescent Beach, Connecticut, where it grew in dry fields not far from the seashore. In early September, Mr. Sleeper obtained additional material from the same locality, and later, in the same month, Mr. A. A. Eaton, while collecting near North Easton, Massachusetts, came upon several stations where it was associated with *S. gracilis* and *S. cernua*, var. *ochroleuca*, hybridizing with the former.

In RHODORA (v. 261) I described the hybrid and for comparison showed drawings of the lips of the parents. The lip of what is there called *S. praecox*, Watson, as shown in the illustration is decidedly ovate in outline, and therefore very different from the oblong lip of the true *S. praecox*. In the dried state *Spiranthes neglecta* may usually be distinguished from *S. praecox* by the color and texture of the flowers, these being of a deeper brown. The lip, as a rule, is more opaque, and thicker, with the nerves showing less distinctly

than in *S. praecox*. The diacritical characters which distinguish *S. neglecta* from *S. praecox* beyond uncertainty are mainly in the lip. The callosities of the latter are decidedly marginal and basal, and the base of the lip passes rather obliquely into the claw behind them. The sides of the basal half of the lip are quite parallel and leave a very narrow, almost imperceptible margin where they pass round the callosities. In *S. neglecta*, on the other hand, the callosities do not have the appearance of being marginal, and the base of the lip

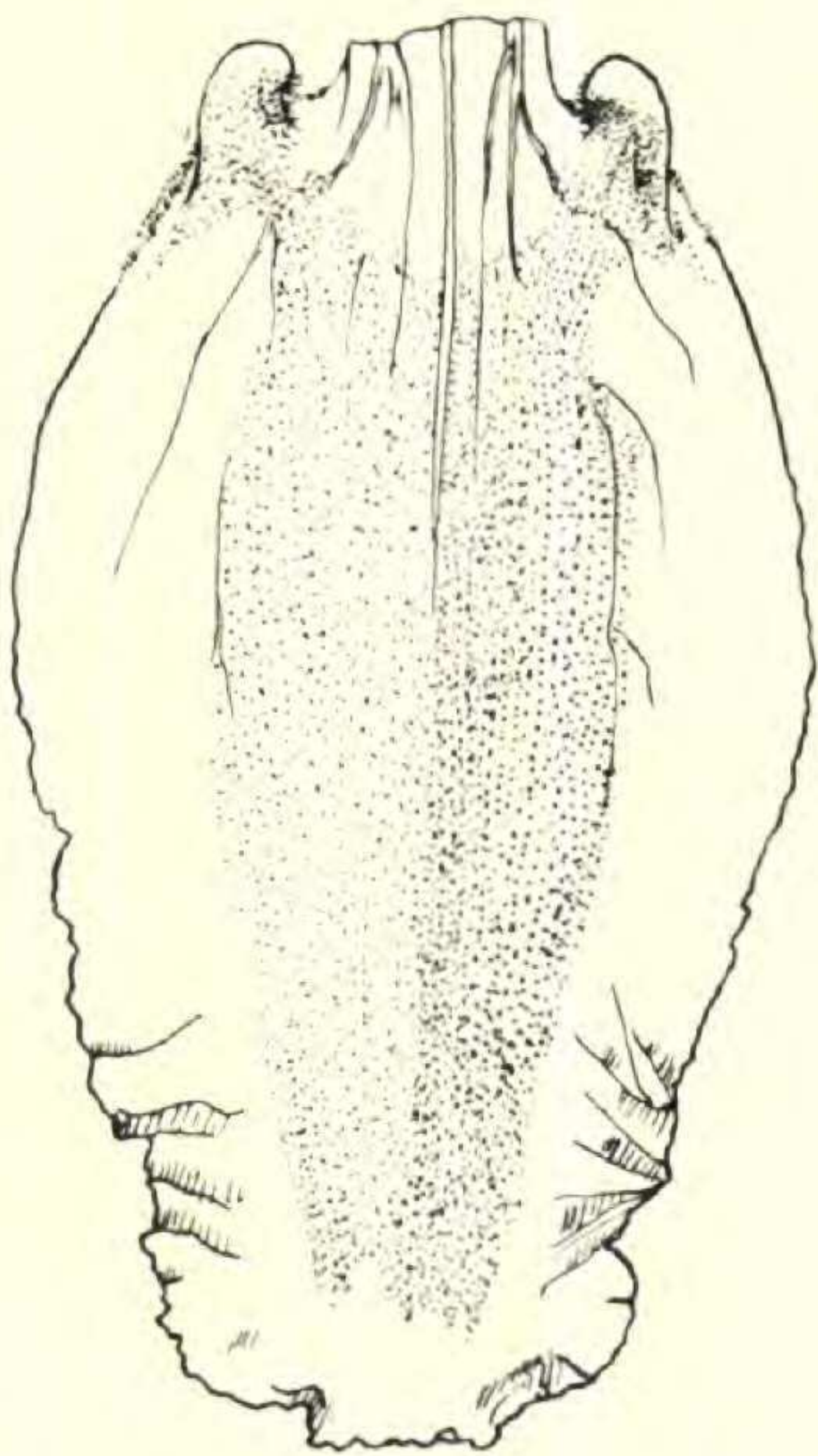


Fig. 1. Lip of *Spiranthes neglecta*.

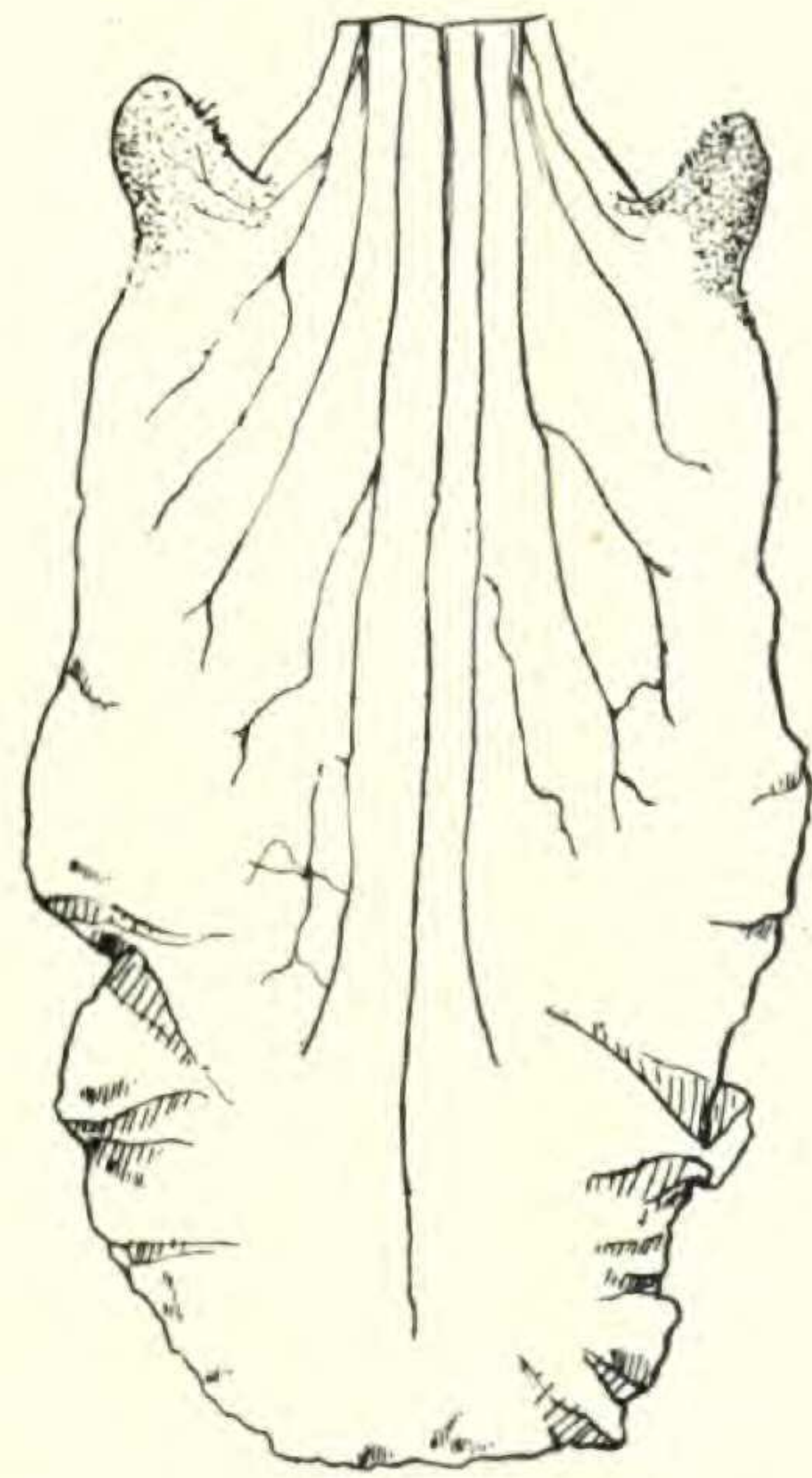


Fig. 2. Lip of *Spiranthes praecox*, Wats.

curves gradually into the claw behind them. The sides of the basal half of the lip swell outwards and where they pass round the callosities leave a conspicuous margin. Although in general outline the lip varies from narrowly to broadly ovate and is sometimes lanceolate, it is always dilated at the proximal half and tapers noticeably to the apex. *S. praecox* is very constant in the lip outline, and when spread out the sides at base and near the apex appear to be equidistant or very nearly so, or sometimes the apical third is broader than the base.

The blooming season of *S. praecox* begins in March in the far South and somewhat later as the northern boundary of its range is approached. *S. neglecta* does not bloom till August in New England, but in Georgia, which seems to be the southernmost limit for it, the flowers open in June.

Spiranthes neglecta resembles *S. gracilis*, but only in a general way, as the elongated leaves, hyaline-margined floral bracts, pubescent rhachis (*S. gracilis* is usually glabrous or only sparsely pubescent), ovate lip, and yellowish flowers render it clearly distinguishable from that species. As it grows together with *S. cernua*, var. *ochroleuca* and *S. gracilis*, one might well regard it a hybrid derived from them, if several characters, for which it would be difficult to account on such a supposition, did not exist. The more robust plants of *S. neglecta* recall *S. cernua*, var. *ochroleuca*, but differ from it, among other things, in the shorter floral bracts, longer, more slender, linear spike, and in the narrower fugacious leaves. When dry *S. cernua*, var. *ochroleuca* is of a yellow-brown color, while *S. neglecta* especially in the leaves is deep-brown, sometimes blackish in aspect.

SPIRANTHES neglecta, sp. nov. Plant 15–56 cm. high (average height 33 cm.). Roots elongated, fleshy, fusiform; leaves linear-lanceolate, 7–15 cm. long, 8–9 mm. wide, tapering to both ends, mostly basal, the lower ones usually passing before anthesis, the upper ones withering early; cauline bracts acuminate, acute; scape smooth below, summit and rhachis pubescent, pubescence often dense, frequently extending below the uppermost cauline bract; floral bracts lanceolate-acuminate, longer than the ovaries, conspicuously hyaline-margined, margins often crenulate or wavy, base sometimes auriculate; flowers (average length of perianth 7 mm.) mostly yellowish-white, pubescent, in a regular or irregular, one-ranked spiral; spike 1–1.5 cm. thick, 8–15 cm. long, slender; lateral sepals 3-nerved, lanceolate, 6–10 mm. long, margin involute; upper sepal adhering lightly to the oblong, obtuse, 3-nerved petals; lip narrowly ovate to broadly ovate when flattened out, rarely lanceolate, strongly channeled longitudinally along the middle, apical third with an erose margin, central portion suffused with yellow or greenish-yellow, veining obscure, base gradually rounded into a short claw; callosities somewhat curved, copiously hairy on the inner side, smooth above, gynostemium much the same as in *S. cernua*, Richard. — In dry, gravelly fields, and in sandy places by the seashore. New Castle Co., Delaware, July 27, 1863; Ocean City, Maryland, July 25, 1878 (*A. Commons*); Closter, Bergen Co., New Jersey, July and August, (*C. F. Austin*); Vicinity of Washington, D. C., August, 1897, (*E. E. Steele*); Millen, Georgia, June 5, 1901 (*Roland M. Harper*) a single specimen in Gray Herbarium; Oxford, Connecticut, August, 1887, (*E. B. Harger*) a single specimen in New England Botanical Club Herbarium; Crescent, Connecticut, August, 1903, (*R. G. Leavitt & H. D. Sleeper*); Easton, Massachusetts, Sept., 1903, (*A. A. Eaton*) — *type*.

Fig. 1 shows the lip of *S. neglecta* (from Easton, Mass.) flattened

out. Fig. 2 shows the lip of *S. praecox* (from Thomasville, Georgia) similarly treated: *both from material preserved in alcohol.*

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EXPLANATION OF PLATE 51.—*Spiranthes neglecta* to show inflorescence, leaves, and roots. (Natural size.) Fig. 1, petal (× 3). Fig. 2, lateral sepal to show involute margin (× 3). Fig. 3, flower (× 3). Fig. 4, upper sepal (× 3). Fig. 5, lip, flattened out to show outline (× 3).

MISCELLANEOUS NOTES ON NEW ENGLAND FERNS,—VI.

GEORGE E. DAVENPORT.

NOTE 10.—A NEW FORM OF *NEPHRODIUM SPINULOSUM*. Somewhat late in the summer of 1902 Mr. Henry A. Purdie brought to me an unusual form of *Nephrodium spinulosum*, Desv., which he had collected in Concord, Massachusetts. His specimen consisted of one large frond with narrowly angular aculeate segments resembling some forms of *Polystichum angulare*, the whole presenting an appearance quite unlike the ordinary forms of *N. spinulosum*.

Mr. Purdie reported finding only one plant, which he carefully located for further investigation, and in August, 1903, I had the pleasure of visiting the locality with him and was able to obtain a few additional fronds for specimens. I also secured, by detaching them from the main rootstock, two offshoots for propagation, and was able to separate these subsequently into two more, thus obtaining four small plants as a nucleus for further increase. The swamp in which the original plant was found abounds with *intermedium* and *dilatatum* forms of *N. spinulosum*, and characteristics of each of these are to be seen in the make-up of the new form. Indeed, it might be not inaptly described as a very much dissected var. *intermedium* with the outlines of var. *dilatatum*. In the vicinity of the plant there were a few large individuals of var. *intermedium* and from them the new fern was readily distinguishable by its unique architectural form, notwithstanding some resemblance to its nearest neighbor.

As to its probable origin two theories present themselves; for it may be either a hybrid or a spore variation. In this instance I am